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EXAMINER	
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ART UNIT	**PAPER NUMBER**
2643	8

DATE MAILED: 03/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/741,115	CAPON ET AL.	
	Examiner	Art Unit	
	Alexander Jamal	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17,19-31 and 33-39* is/are rejected.

7)☐ Claim(s) *18 and 32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 December 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show 'Resistive section 35' in Fig. 4 as described in the specification page 24 lines 13-29. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

1. The disclosure is objected to because of the following informalities:

   a. Page 25 line 2 "resistive section 29" refers to a capacitor and resistor in parallel. Examiner assumes applicant meant "resistive section 35" which must be marked upon figure 4 as per the Objection to the drawings listed above.

   b. Page 26 lines 11 and 12, the units for the resistive values are not specified. Examiner assumes the applicant was referring to 'ohms'.

   Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claim 9** rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claim describes the structure of a standard resistive H-Pad attenuator that comprises a first and second resistive elements coupled in parallel, and third and fourth resistive elements.coupled in parallel. That circuit structure is not the same structure that is described in the specification (Page 25 lines 15-29) or in Figure 4 as there are no sets of resistors in parallel with each other.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claim 13** rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim states "comprises a resistor approximately of 100". No units are given. Examiner assumes the units are ohms.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. **Claims 1-11,14-15** rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al (4246582), and further in view of Gambuzza (6226331).

a. **Claim 1:** Kondo discloses an attenuation device (Pad 17 in abstract) comprising a resistive circuit (pad 17 in Fig. 1) that may be a resistive H-pad (Col 3 lines 48-57) that is operable to connect to the transceiver line (which may be a twisted wire pair telephone line: Col 1 lines 48-68).

However Kondo does not disclose a capacitive circuit coupled in series to the resistive circuit that is operable to permit normal operation of telephone services at a subscriber premise.

Gambuzza discloses an isolation interface for a transceiver system (xDSL modem) on a telephone line (ABSTRACT). He teaches an inexpensive isolation system comprising two capacitive circuits (one in series with the tip wire and one in series with the ring wire as per capacitors C7,C8 in Fig. 4, or capacitors C1 and C2 in Fig. 3) for the purpose of providing an isolating termination for a transceiver system (an xDSL modem). The isolating capacitive circuits will only couple the appropriate data signals across and

as such they will allow normal operation of telephone services in a subscriber premise (Col 3 lines 58-64,Col 7 lines 15-40). It would have been obvious to one of ordinary skill in the art at the time of this application to implement Gambuzza's capacitive circuits in series with the transceiver system (including the resistive pad) for the purpose of providing an isolation termination for the transceiver system disclosed by Kondo.

b. **Claim 2:** Gambuzza's capacitive circuit provides galvanic isolation (Col 3 lines 58-63) (Col 5 lines 21-52) that inherently (by definition) will filter out telephone signals received at the subscriber premise.

c. **Claim 3:** Gambuzza's capacitive circuit provides galvanic isolation (Col 3 lines 58-63) (Col 5 lines 21-52) that inherently (by definition) will filter out telephone signals received at the subscriber premise. Because the isolation circuits comprises series capacitors, the capacitors inherently posses decreasing amount of attenuation for data signals as the transmit frequency of the data signals increases.

d. **Claim 4:** Gambuzza's capacitive circuit provides galvanic isolation (Col 3 lines 58-63) (Col 5 lines 21-52) that inherently (by definition) will filter out telephone signals received at the subscriber premise. Because the isolation circuits comprises series capacitors, the capacitors inherently posses decreasing amount of attenuation for data signals as the transmit frequency of the data signals increases (a property of capacitors). Because Gambuzza's isolation circuitry functions with an xdsl modem to allow the modem to receive signaling on an xdsl telephone line, the isolation circuitry inherently provides a substantially consistent amount of attenuation for data signals in the receive

frequency band (Col 4 lines 16-33) for the purpose of allowing substantially consistent detection of the received data signals through the isolation circuitry.

e. **Claim 5:** Examiner takes official notice that it is notoriously well known in the art that traditional telephone signals have a frequency approximately below 4 KHz. It would have been obvious to one skilled in the art that the telephone signals would have a frequency approximately below 4KHz for the reason that the device may be used on a standard telephone line.

Gambuzza discloses that an xDSL modem (such as an ADSL modem Col 1 lines 35-55) may have a bandwidth as high as 1.1MHz, and that the modem uses an isolation barrier to filter out the low frequency telephone signals (Col 5 lines 20-52). As such, it would have been obvious to one of ordinary skill in the art at the time of this application that the transmit and receive frequency bands of the ADSL modem could be arbitrarily chosen (up to approximately 1 MHz) for the purpose that they do not interfere with each other, or with the standard low frequency signals on a standard telephone line.

f. **Claim 6:** It would have been obvious to one of ordinary skill in the art at the time of this application that the attenuation provided by the attenuation device to the receive frequency band of Gambuzza's modem would be a substantially consistant value (such as 5dB) for the purpose of allowing a substantially consistent detection of the received data signals through the isolation circuitry.

g. **Claim 7:** Kondo's transceiver comprises a first (amplifier 22 in Fig. 1) and a second (amplifier 14 in Fig. 1) coupled to the subscriber line (and the capacitive isolation circuitry taught by Gambuzza) through hybrid coil 16 and Pad 17.

h. **Claim 8:** Kondo discloses that the resistive attenuation circuit may be a resistive H-Pad (Col 3 lines 48-57).

i. **Claim 10:** Gambuzza discloses that the attenuating capacitive circuit comprises a first capacitive filter coupled to the tipe wire of a telephone line and a second capacitive filter to couple to the ring wire (capacitors C7,C8 in Fig. 4, or capacitors C1 and C2 in Fig. 3).

j. **Claim 11:** Gambuzza discloses that the attenuating capacitive circuit comprises a first capacitive filter coupled to the tipe wire of a telephone line and a second capacitive filter to couple to the ring wire (GAMBUZZA: capacitors C7,C8 in Fig. 4, or capacitors C1 and C2 in Fig. 3).

Kondo's attenuating circuit (to which Gambuzza's isolating capacitors would couple in series to) comprises a resistive H-Pad configuration (KONDO: Col 3 lines 48-57). that (by definition) comprises

i. A first resistive element coupled in series to Gambuzza's first capacitor filter.

ii. A second resistive element coupled in series to Gambuzza's second capacitor filter.

iii. A third resistive element coupled in series to the first resistive element.

iv. A fourth resistive element coupled in series to the second resistive element.

v. A fifth resistive element coupled in series between the first-thru-fourth resistive elements.

k. **Claim 14:** Kondo discloses that the H-Pad may be set to model the optimum impedance for the particular line for which it is being used (Col 2 lines 5-32). The resistive H-Pad configuration (by definition of the configuration) will inherently model various lengths of twisted pair lines between the remote location (CO) and the subscriber premise (Col2 lines 23-26).

l. **Claim 15:** Kondo discloses that the resistive attenuation circuit may be a resistive H-Pad (Col 3 lines 48-57). Kondo discloses that the H-Pad may be set to model the optimum impedance for the particular line for which it is being used (Col 2 lines 5-32). The resistive H-Pad configuration (by definition of the configuration) will inherently model various lengths of twisted pair lines between the remote location (CO) and the subscriber premise (Col2 lines 23-26). Kondo further discloses that there may be multiple sets of resistors (two or more resistors that may be varied in a ganged manner). This would inherently require a selector (such as a switch) for the purpose of selecting one of the resistive circuits.

8. **Claims 12-13** rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al (4246582) and Gambuzza (6226331) as applied to claims 1-11, and further in view of Lundqvist (4432029).

a. **Claim 12:** Kondo and Gambuzza disclose applicant's claims 1-11 but do not mention the capacitive filters comprising a resistive element in parallel with each capacitor.

However, Lundqvist discloses that series capacitors used in a high voltage network (such as a telephone line) may use a resistive varistor in parallel with the capacitors in order to provide overvoltage protection to the capactors (Col 1 lines 15-60). It would have been obvious to one of ordinary skill in the art at the time of this application to utilize resistive elements in parallel with the series capacitive elements on a high voltage network (telephone line) for the purpose of providing the capacitors with overvoltage protection.

b. **Claim 13:** Kondo, Gambuzza and Lundqvist disclose applicant's claims 1-12 but they do not specify the exact values used in the resistive and capacitive elements. It would have been obvious to one skilled in the art at the time of the invention to utilize appropriate component values for the fifth resistive element and the capacitive elements for the purpose of providing the appropriate amount of attenuation (filtering). It would have also been obvious to one skilled in the art at the time of the invention to utilize appropriate component values for the sixth resistive element for the purpose of providing

the appropriate amount of protection for the chosen capacitor values and any overvoltage levels that the capacitors may be exposed to.

9. **Claims 16-26** rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al (4246582), and further in view of Gambuzza (6226331) and further in view of Lundqvist (4432029).

a. **Claim 16:** Kondo discloses a transmission system (such as an xDSL modem) comprising:

i. A housing is inherent to the transmission system for the purpose of holding and supporting all of the circuitry.

ii. An attenuation device (Pad 17 in abstract) comprising a resistive circuit (pad 17 in Fig. 1) that may be a resistive H-pad (Col 3 lines 48-57) that is operable to connect to the transceiver line (which may be a twisted wire pair telephone line: Col 1 lines 48-68) and has a first and second end.

iii. The resistive attenuation circuit may be a resistive H-Pad (Col 3 lines 48-57). Kondo discloses that the H-Pad may be set to model the optimum impedance for the particular line for which it is being used (Col 2 lines 5-32). The resistive H-Pad configuration (by definition of the configuration) will inherently model various lengths of twisted pair lines between the remote location (CO) and the subscriber premise (Col2 lines 23-26). Kondo further discloses that there may be multiple sets of resistors (two or more resistors that may be varied in a ganged

manner). This would inherently require a selector (such as a switch) for the purpose of selecting one of the resistive circuits.

iv. Bi-directional amplifiers 14,22 (Fig. 1) with variable gain coupled to the selector and second end of the resistive circuit 17.

v. Gain control circuit 29 is coupled to the bi-directional amplifiers 14,22 (Col 4 lines 10-34).

vi. A processor coupled to Gain control circuit 29 and the amplifiers is inherent to the system (Fig. 1) for the purpose of processing the data sent and received by the modem as well as processing the sensed signal ration and controlling the gain control circuit appropriately (Col 4 lines 10-34).

vii. A line interface comprising hybrid coil 16 and the remaining circuitry of Fig. 1 is coupled to the selector (Pad 17) and is operable to communicate over a twisted pair line (Col 1 lines 30-68).

However Kondo does not disclose:

i. A plurality of capacitive circuits coupled in series between the first end of the resistive circuit and selector coupled in series to the resistive circuit that is operable to permit normal operation of telephone services at a subscriber premise.

ii. Resistors in parallel with the capacitive circuits.

Gambuzza discloses an isolation interface for a transceiver system (xDSL modem) on a telephone line (ABSTRACT). He teaches that a transceiver system (such as the one disclosed by Kondo) may be an xDSL communications device used on a DSL line (ABSTRACT, Figs. 1-4). He teaches an inexpensive isolation system comprising two capacitive circuits (one in series with the tip wire and one in series with the ring wire as per capacitors C7,C8 in Fig. 4, or capacitors C1 and C2 in Fig. 3) for the purpose of providing an isolating termination for a transceiver system (an xDSL modem). The isolating capacitive circuits will only couple the appropriate data signals across and as such they will allow normal operation of telephone services in a subscriber premise (Col 3 lines 58-64,Col 7 lines 15-40). It would have been obvious to one of ordinary skill in the art at the time of this application to implement Gambuzza's capacitive circuits in series with the transceiver system (including the resistive pad) for the purpose of providing an isolation termination for the transceiver system disclosed by Kondo.

Lundqvist discloses that series capacitors used in a high voltage network (such as a telephone line) may use a resistive varistor in parallel with the capacitors in order to provide overvoltage protection to the capactors (Col 1 lines 15-60). It would have been obvious to one of ordinary skill in the art at the time of this application to utilize resistive elements in parallel with the series capacitive elements on a high voltage network (telephone line) for the purpose of providing the capacitors with overvoltage protection.

b. **Claim 17:** Gambuzza's system comprises an ADSL modem that he discloses will provide an upstream and downstream data rate (Col 1 lines 19-54). The system inherently comprises a processor to train the circuitry for the data rates for the purpose of controlling the circuitry and reading the data and signaling being sent on the line.

In Kondo's system the processor (inherent to the system as stated above) receives a measured signal strength from the twisted pair line and calculates an appropriate amplification for the data signal (based upon signal strength). This information is communicated to a gain control circuit (comprising feedback resistors 27,28) that adjusts the gain of the amplifiers 22,14 (Col 4 lines 10-34).

c. **Claim 19:** Gambuzza's capacitive circuit provides galvanic isolation (Col 3 lines 58-63) (Col 5 lines 21-52) that inherently (by definition) will filter out telephone signals received at the subscriber premise.

d. **Claim 20:** Gambuzza's capacitive circuit provides galvanic isolation (Col 3 lines 58-63) (Col 5 lines 21-52) that inherently (by definition) will filter out telephone signals received at the subscriber premise. Because the isolation circuits comprises series capacitors, the capacitors inherently posses decreasing amount of attenuation for data signals as the transmit frequency of the data signals increases.

e. **Claim 21:** Gambuzza's capacitive circuit provides galvanic isolation (Col 3 lines 58-63) (Col 5 lines 21-52) that inherently (by definition) will filter out telephone signals received at the subscriber premise. Because the isolation circuits comprises series capacitors, the capacitors inherently posses decreasing amount of attenuation for data

signals as the transmit frequency of the data signals increases (a property of capacitors). Because Gambuzza's isolation circuitry functions with an xdsl modem to allow the modem to receive signaling on an xdsl telephone line, the isolation circuitry inherently provides a substantially consistent amount of attenuation for data signals in the receive frequency band (Col 4 lines 16-33) for the purpose of allowing substantially consistent detection of the received data signals through the isolation circuitry.

f. **Claim 22**: Examiner takes official notice that it is notoriously well known in the art that traditional telephone signals have a frequency approximately below 4 KHz. It would have been obvious to one skilled in the art that the telephone signals would have a frequency approximately below 4KHz for the reason that the device may be used on a standard telephone line.

Gambuzza discloses that an xDSL modem (such as an ADSL modem Col 1 lines 35-55) may have a bandwidth as high as 1.1MHz, and that the modem uses an isolation barrier to filter out the low frequency telephone signals (Col 5 lines 20-52). As such, it would have been obvious to one of ordinary skill in the art at the time of this application that the transmit and receive frequency bands of the ADSL modem could be arbitrarily chosen (up to approximately 1 MHz) for the purpose that they do not interfere with each other, or with the standard low frequency signals on a standard telephone line.

g. **Claim 23:** Kondo discloses that the resistive attenuation circuit may be a resistive H-Pad (Col 3 lines 48-57).

h. **Claim 24:** Kondo discloses that the H-Pad may be set to model the optimum impedance for the particular line for which it is being used (Col 2 lines 5-32). The

resistive H-Pad configuration (by definition of the configuration) will inherently model various lengths of twisted pair lines between the remote location (CO) and the subscriber premise (Col2 lines 23-26).

i. **Claim 25/26:** Kondo discloses that the resistive attenuation circuit may be a resistive H-Pad (Col 3 lines 48-57). Kondo discloses that the H-Pad may be set to model the optimum impedance for the particular line for which it is being used (Col 2 lines 5-32). The resistive H-Pad configuration (by definition of the configuration) will inherently model various lengths of twisted pair lines between the remote location (CO) and the subscriber premise (Col2 lines 23-26). Kondo further discloses that there may be multiple sets of resistors (two or more resistors that may be varied in a ganged manner). This would inherently require a selector (such as a switch) for the purpose of selecting one of the resistive circuits.

10. **Claims 27-34** rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al (4246582), and further in view of Gambuzza (6226331).

a. **Claim 27:** Kondo discloses a method for improving the performance of transceiver transmission system (such as an xDSL modem) located at a customer premise comprising:

i. Attenuating the transmit and receive signals with a resistive circuit comprising an attenuation device (Pad 17 in abstract) that may be a resistive H-pad (Col 3 lines 48-57), that is operable to connect to the transceiver line (which

may be a twisted wire pair telephone line: Col 1 lines 48-68). Since the circuit is a resistive circuit, the amount of attenuation will remain substantially consistent for the data signals in the receive frequency band.

However Kondo does not disclose:

i. Filtering out telephone signals over the twisted pair line using a plurality of capacitive circuits coupled in series between the first end of the resistive circuit that is operable to permit normal operation of telephone services at a subscriber premise.

ii. Receiving the transmit and receive signals through capacitive coupling with the amount of attenuation on the receive signals remaining substantially consistent through the capacitive coupling.

Gambuzza discloses an isolation interface for a transceiver system (xDSL modem) on a telephone line (ABSTRACT). He teaches that a transceiver system (such as the one disclosed by Kondo) may be an xDSL communications device used on a DSL line (ABSTRACT, Figs. 1-4). He teaches an inexpensive isolation system comprising two capacitive circuits (one in series with the tip wire and one in series with the ring wire as per capacitors C7,C8 in Fig. 4, or capacitors C1 and C2 in Fig. 3) for the purpose of providing an isolating termination for a transceiver system (an xDSL modem). Gambuzza's capacitive circuit provides galvanic isolation (Col 3 lines 58-63) (Col 5 lines 21-52) that inherently (by definition) will filter out telephone signals received at the

subscriber premise. The isolating capacitive circuits will only couple the appropriate data signals across and as such they will allow normal operation of telephone services in a subscriber premise (Col 3 lines 58-64,Col 7 lines 15-40). Because Gambuzza's isolation circuitry functions with an xdsl modem to allow the modem to receive signaling on an xdsl telephone line, the isolation circuitry inherently provides a substantially consistent amount of attenuation for data signals in the receive frequency band (Col 4 lines 16-33) for the purpose of allowing substantially consistent detection of the received data signals through the isolation circuitry. It would have been obvious to one of ordinary skill in the art at the time of this application to implement Gambuzza's capacitive circuits in series with the transceiver system (including the resistive pad) for the purpose of providing an isolation termination for the transceiver system disclosed by Kondo.

b. **Claim 28:** Kondo discloses that the H-Pad attenuator (the step of attenuating) may be set to model the optimum impedance for the particular line for which it is being used (Col 2 lines 5-32). The resistive H-Pad configuration (by definition of the configuration) will inherently model various lengths of twisted pair lines between the remote location (CO) and the subscriber premise (Col2 lines 23-26). This will increase the effective distance between the modem and the remote location.

c. **Claim 29:** Examiner takes official notice that it is notoriously well known in the art that traditional telephone signals have a frequency approximately below 4 KHz. It would have been obvious to one skilled in the art that the telephone signals would have a

frequency approximately below 4KHz for the reason that the device may be used on a standard telephone line.

Gambuzza discloses that an xDSL modem (such as an ADSL modem Col 1 lines 35-55) may have a bandwidth as high as 1.1MHz, and that the modem uses an isolation barrier to filter out the low frequency telephone signals (Col 5 lines 20-52). As such, it would have been obvious to one of ordinary skill in the art at the time of this application that the transmit and receive frequency bands of the ADSL modem could be arbitrarily chosen (up to approximately 1 MHz) for the purpose that they do not interfere with each other, or with the standard low frequency signals on a standard telephone line.

d. **Claim 30:** Kondo discloses that the resistive attenuation circuit may be a resistive H-Pad (Col 3 lines 48-57).

e. **Claim 31:** In Kondo's method the processor (inherent to the system as stated above) receives a measured signal strength from the twisted pair line and calculates an appropriate amplification or attenuation for the data signal (based upon signal strength). This information is communicated to a gain control circuit (comprising feedback resistors 27,28) that adjusts the gain of the amplifiers 22,14 or sets the appropriate value of the resistance attenuation pad 17 (Col 4 lines 10-34).

f. **Claim 33:** Kondo discloses that step of modelling the optimum impedance for the particular line for which it is being used (Col 2 lines 5-32). The resistive H-Pad configuration (by definition of the configuration) will inherently model various lengths of twisted pair lines between the remote location (CO) and the subscriber premise (Col2

lines 23-26). Kondo further discloses that there may be multiple sets (a plurality) of resistors (two or more resistors that may be varied in a ganged manner).

g. Claim 34: Kondo discloses that step of modelling the optimum impedance for the particular line for which it is being used (Col 2 lines 5-32). The resistive H-Pad configuration (by definition of the configuration) will inherently model various lengths of twisted pair lines between the remote location (CO) and the subscriber premise (Col2 lines 23-26). Kondo further discloses that there may be multiple sets (a plurality) of resistors (two or more resistors that may be varied in a ganged manner).

In Kondo's method the processor (inherent to the system as stated above) receives a measured signal strength from the twisted pair line and calculates an appropriate amplification or attenuation for the data signal (based upon signal strength). This information is communicated to a gain control circuit (comprising feedback resistors 27,28) that adjusts the gain of the amplifiers 22,14 or sets the appropriate value of the resistance attenuation pad 17 (Col 4 lines 10-34).

11. Claims 35-39 rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al (4246582), and further in view of Gambuzza (6226331).

a. Claim 35: Kondo discloses an attenuation device (Pad 17 in abstract) for a transceiver comprising a resistive circuit (pad 17 in Fig. 1) that may be a resistive H-pad (Col 3 lines 48-57) that is operable to connect to the transceiver line (which may be a twisted wire pair telephone line: Col 1 lines 48-68). The device provides means for attenuating both transmit and received signals

However Kondo does not disclose a capacitive circuit (means) coupled in series to the resistive circuit that is operable to filter out telephone signals and receive transmit/receive data signals and provide normal operation of telephone services. Nor does he disclose the filtering means providing decreasing attenuation as the frequency of the transmit data signals increase, and providing substantially consistent attenuation for signals in the receive frequency band.

Gambuzza discloses an isolation interface for a transceiver system (xDSL modem) on a telephone line (ABSTRACT). He teaches that a transceiver system (such as the one disclosed by Kondo) may be an xDSL communications device used on a DSL line (ABSTRACT, Figs. 1-4). He teaches an inexpensive isolation system comprising two capacitive circuits (one in series with the tip wire and one in series with the ring wire as per capacitors C7,C8 in Fig. 4, or capacitors C1 and C2 in Fig. 3) for the purpose of providing an isolating termination for a transceiver system (an xDSL modem). Gambuzza's capacitive circuit provides galvanic isolation (Col 3 lines 58-63) (Col 5 lines 21-52) that inherently (by definition) will filter out telephone signals received at the subscriber premise. The isolating capacitive circuits will only couple the appropriate data signals across and as such they will allow normal operation of telephone services in a subscriber premise (Col 3 lines 58-64,Col 7 lines 15-40). Because Gambuzza's isolation circuitry functions with an xdsl modem to allow the modem to receive signaling on an xdsl telephone line, the isolation circuitry inherently provides a substantially consistent amount of attenuation for data signals in the receive frequency band (Col 4 lines 16-33) for the purpose of allowing substantially consistent detection of the received

data signals through the isolation circuitry. Because the isolation circuits comprises series capacitors, the capacitors inherently posses decreasing amount of attenuation for data signals as the frequency of the data signals increases (such as the increasing frequency of the transmit data signals (Col 1 lines 45-55). It would have been obvious to one of ordinary skill in the art at the time of this application to implement Gambuzza's capacitive circuits in series with the transceiver system (including the resistive pad) for the purpose of providing an isolation termination for the transceiver system disclosed by Kondo.

b. Claim 36: Examiner takes official notice that it is notoriously well known in the art that traditional telephone signals have a frequency approximately below 4 KHz. It would have been obvious to one skilled in the art that the telephone signals would have a frequency approximately below 4KHz for the reason that the device may be used on a standard telephone line.

Gambuzza discloses that an xDSL modem (such as an ADSL modem Col 1 lines 35-55) may have a bandwidth as high as 1.1MHz, and that the modem uses an isolation barrier to filter out the low frequency telephone signals (Col 5 lines 20-52). As such, it would have been obvious to one of ordinary skill in the art at the time of this application that the transmit and receive frequency bands of the ADSL modem could be arbitrarily chosen (up to approximately 1 MHz) for the purpose that they do not interfere with each other, or with the standard low frequency signals on a standard telephone line.

c. **Claim 37:** Kondo discloses that the resistive attenuation circuit may be a resistive H-Pad (Col 3 lines 48-57).

d. **Claim 39:** Kondo discloses that the H-Pad may be set to model the optimum impedance for the particular line for which it is being used (Col 2 lines 5-32). The resistive H-Pad configuration (by definition of the configuration) will inherently model various lengths of twisted pair lines between the remote location (CO) and the subscriber premise (Col2 lines 23-26).

12. **Claims 37** rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al (4246582) and Gambuzza (6226331) as applied to claim 35,36, and further in view of Lundqvist (4432029).

a. **Claim 37:** Kondo and Gambuzza disclose applicant's claim 35,36 but do not mention the capacitive filters comprising a resistive element in parallel with each capacitor.

However, Lundqvist discloses that series capacitors used in a high voltage network (such as a telephone line) may use a resistive varistor in parallel with the capacitors in order to provide overvoltage protection to the capactors (Col 1 lines 15-60). It would have been obvious to one of ordinary skill in the art at the time of this application to utilize resistive elements in parallel with the series capacitive elements on a high voltage network (telephone line) for the purpose of providing the capacitors with overvoltage protection.

Allowable Subject Matter

Claims 18,32 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 703-305-3433. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9315 for After Final communications.

AJ
March 16, 2004

DUC NGUYEN
PRIMARY EXAMINER